

# Connecting with Cow Comfort

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Researchers from around the world gathered in Indianapolis, Indiana at the 2013 Joint Annual Meeting of the American Dairy Science Association and the American Society of Animal Science. Five days of posters and oral presentations covered a variety of topics, several focused on dairy cattle behavior and public perception, the highlights of which are listed below.

## **What does the industry say?**

Dairy cattle welfare continues to be an issue in multiple countries. Canadian researchers held a forum between industry leaders, researchers, veterinarians, dairy specialists, producers, and students to pinpoint concerns in the modern dairy industry.

Five evenly mixed groups held 1-hour conversations, which were recorded then written out word for word. Identification of five common themes occurred: cow pain and suffering, cow vulnerability, animal behavioral restrictions, milk production and economics, and public perception. Lameness was identified as a concern in both pain and suffering and production and economics. Other common concerns included injuries, cow comfort, dehorning, disease, freedom, poor handling, high mortality, cull cows, and the life of a calf after weaning. Recommendations for the future included finding out what the public thinks about the industry.

*Take home message:* Discussions among all factors of the dairy industry help pinpoint potential public perception concerns before they become major media issues. This may improve the overall public opinion of farmers and production facilities.

## **Influence of lying time on cattle well-being**

Several presentations dealt exclusively with bedding surfaces, and their effect on overall lying time.

A University of Kentucky study investigated the effect of waterbeds and rubber filled mattresses in a newly renovated barn on daily lying time, milk yield, and rumination time. The freestalls were updated to the industry standard size for the largest Holstein in the university herd. All cows in the study were fitted with IceQube sensors (IceRobotics Edinburgh, Scotland) to monitor lying time. The study noted a significant difference between the two surfaces on lying time and rumination time. Cows on waterbeds increased lying time by 47 minutes/cow/day, decreased daily rumination time of 15 minutes/cow/day, and maintained a lower hock score. No difference was seen between the stall surfaces on daily milk yield.

Another Canadian study delved into the effect of stall surface on lying time. This study involved gel-filled mattresses, foam pads, and the differences in compressibility. Eighteen non-lactating Holstein cows received a 24hr free choice period on the surfaces monitored by video and accelerometers. Over the next 6 days, cows were restricted to one of the surfaces for 3 days at a time with the same monitoring system. Lying time increased by 35 minutes on the gel mattresses, with a shorter time to move from a standing position to a lying position, lower standing time, and reduction in standing with the front legs in the stall and the rear legs in the alley.

University of Minnesota researchers investigated the effects of feed bunk stocking density on lying time in cows 4 weeks prior to calving. The two stocking densities tested were

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80% and 100% on paired groups of first calf heifers and cows. First calf heifers spent more time lying at the lower stocking density, however cows at the higher stocking density spent more time lying than cows at the lower one.

*Take home message:* With increasing comfort and compressibility of lying surface, daily lying time increases and hock scores improve for lactating and non-lactating cows. The effect of stocking density on close-up dry cows is dependent on age, with mature cows lying longer at 100%, and first calf heifers at 80%.

### **What dairymen are doing**

Researchers in Canada started the Dairy Cluster Project. The primary focus was improving cow comfort to increase cow longevity in tie-stall and freestall barns, and to identify any barriers that limit producer adoption of changes that may improve these factors. The initial study compared animal-based measures (lameness, hock injury, lying time, and body condition), stall and facility design, and a management questionnaire (cleaning and feeding routine) from all farms included on the study. All data was analyzed, and farmers were benchmarked based on the averages of other farmers in their area. Precise feedback was given to all participating farmers on each of the study measures to aid farmers in targeting areas that could be improved including: bedding management, stall bases (increased compressibility, correct stall size for largest cows), and hoof-trimming schedule.

A follow-up interview was conducted a year to year and half after the original visits. Any changes made by the farmers were documented, along with any barriers or challenges that hindered or prevented improvement. Many of the changes included lower stocking densities and lameness management such as footbaths and identification of lame cows. Twenty seven percent of farmers did not make any changes. This was due to lack of funds, satisfaction with where they fell in the benchmarking, or lack of information and help to change.

*Take home message:* Benchmarking seems to be a helpful tool for showing how cow comfort practices affect other measures on a dairy farm such as longevity and lameness. The largest roadblock to adopting changes to improve cow comfort was lack of funds, followed by satisfaction with their current standing in the benchmarking process, and finally lack of information on how to change and help to make it happen.